

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1-25. (canceled)

Claim 26. (new) A substrate for a thin film which comprises as a main component at least one selected from the group consisting of gallium nitride, indium nitride and aluminum nitride, and is a single-crystal thin film, or a thin film having at least a single-crystal thin film layer, said substrate comprises a sintered compact having average surface roughness not more than 2000 nm.

Claim 27. (new) The substrate for a thin film as described in Claim 26, wherein said single-crystal thin film, or thin film having at least a single-crystal thin film layer is formed on the sintered compact closely.

Claim 28. (new) The substrate for a thin film as described in Claim 26, wherein said single-crystal thin film, or thin film having at least a single-crystal thin film layer has the junction strength not less than 2 kg/mm² to the sintered compact.

Claim 29. (new) The substrate for a thin film as described in Claim 26, wherein said single-crystal thin film, or single-crystal thin film layer has the half width of a rocking curve not more than 3600 seconds.

Claim 30. (new) The substrate for a thin film as described in Claim 29, wherein said half width of a rocking curve is measured by 2 θ / θ scanning or ω scanning.

Claim 31. (new) The substrate for a thin film as described in Claim 26, wherein said single-crystal thin film, or thin film having a single-crystal thin film layer has average surface roughness not more than 2000 nm.

Claim 32. (new) The substrate for a thin film as described in Claim 26, wherein said sintered compact comprises as a main component a ceramic material.

Claim 33. (new) The substrate for a thin film as described in Claim 26, wherein said sintered compact has average surface roughness not more than 100 nm.

Claim 34. (new) The substrate for a thin film as described in Claim 26, wherein said sintered compact has a thin film conductive material at least on the surface, and the thin film conductive material comprises as a main component at least one selected from the group consisting of metal, an alloy, metal nitride, metal carbide and metal silicide.

Claim 35. (new) The substrate for a thin film as described in Claim 26, wherein said single-crystal thin film, or thin film having at least a single-crystal thin film layer has a thin film conductive material on the surface and/or in the inside, and the thin film conductive material comprises as a main component at least one selected from the group consisting of metal, an alloy, metal nitride, metal carbide and metal silicide.

Claim 36. (new) The substrate for a thin film as described in Claim 26, wherein said sintered compact has a conduction via, and the conduction via comprises as a main component at least one selected from the group consisting of metal, an alloy and a metal compound having conductivity in which the specific resistance is not more than $1 \times 10^{-3} \Omega \cdot \text{cm}$ at room temperature.

Claim 37. (new) The substrate for a thin film as described in Claim 26, wherein said sintered compact has conductivity, and the specific resistance is not more than $1 \times 10^2 \Omega \cdot \text{cm}$ at room temperature.

Claim 38. (new) The substrate for a thin film as described in Claim 26, wherein said sintered compact has a thin film comprising as a main component at least one selected from the group consisting of gallium nitride, indium nitride and aluminum nitride, and the thin film comprises at least one selected from a single-crystal thin film, an amorphous thin film, a polycrystalline thin film and an orientated polycrystalline thin film

Claim 39. (new) A process for producing a thin film which comprises as a main component at least one selected from the group consisting of gallium nitride, indium nitride and aluminum nitride, and is a single-crystal thin film, or a thin film having at least a single-crystal thin film layer, said single-crystal thin film, or thin film having at least a single-crystal thin film layer is formed on a sintered compact having average surface roughness not more than 2000 nm using a gas containing at least a nitrogen component.

Claim 40. (new) The process for producing a thin film as described in Claim 39, wherein said sintered compact is heat-treated after processing the surface.

Claim 41. (new) The process for producing a thin film as described in Claim 39, wherein said sintered compact is not more than 1500°C .

Claim 42. (new) The process for producing a thin film as described in Claim 39, wherein said gas contains at least one selected from the group consisting of nitrogen, ammonia, argon and hydrogen.

Claim 43. (new) The process for producing a thin film as described in Claim 39, wherein said gas contains at least a nitrogen component and/or argon, and the content of a nitrogen component is the range of 2-100 mol %.

Claim 44. (new) The process for producing a thin film as described in Claim 39, wherein said gas is used in at least one of the method selected from a sputtering method, an MOCVD (Metal Organic Chemical Vapor Deposition) method, an MOVPE (Metal Organic Vapor Phase Epitaxy) method, a Hydride VPE (Hydride Vapor Phase Epitaxy) method, a Halide VPE

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(Halogen Transport Vapor Phase Epitaxy) method containing a Chloride VPE (Chloride Vapor Phase Epitaxy) method, a Plasma CVD method, CVD (Chemical Vapor Deposition) method, an MBE (Molecular Beam Epitaxy) method, a laser ablation method, a PLD (Pulse Laser Deposition: Pulse Laser Deposition) method, an ion-plating method and a vacuum deposition.

Claim 45. (new) The process for producing a thin film as described in Claim 39, wherein said sintered compact comprises as a main component a ceramic material.